

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A two-dimensional photonic crystal having a slab-shaped body in which modified refractive index ~~areas, areas are cyclically arranged, the modified refractive index areas having which have~~ the same shape and ~~whose~~ having a refractive index ~~that~~ differs from that of the body, ~~are cyclically arranged, which is characterized in that:~~, wherein:

a plane shape of each modified refractive index area is a polygon whose corners are removed.

2. (Currently Amended) The two-dimensional photonic crystal according to claim 1, ~~which is characterized in that~~wherein:

the modified refractive index area has a 3m-symmetrical shape.

3. (Currently Amended) The two-dimensional photonic crystal according to claim 2, ~~which is characterized in that~~wherein:

the polygon is an equilateral triangle.

4. (Currently Amended) The two-dimensional photonic crystal according to claim 1, ~~which is characterized in that~~wherein:

the corners are removed along an arc.

5. (Currently Amended) The two-dimensional photonic crystal according to claim 4, ~~which is characterized in that~~wherein:

the modified refractive index areas are arranged in a triangular lattice pattern;

the polygon is an equilateral triangle;

the refractive index of the body is within a range from 3.15 to 3.55; and

a radius r_a of the arc satisfies a following equation:

$$0 < r_a < [1.23(\text{FF} - 0.34)^{0.5} - 1.28(\text{FF} - 0.34) + 1.03(\text{FF} - 0.34)^2],$$

where FF is an area fraction of the modified refractive index areas in the body.

6. (Currently Amended) The two-dimensional photonic crystal according to claim 1, ~~which is characterized in that wherein:~~

~~an area fraction FF of the modified refractive index areas in the body is within a range from 0.45 to 0.85.~~

7. (Currently Amended) The two-dimensional photonic crystal according to claim 6, ~~which is characterized in that wherein:~~

~~the FF value is within a range from 0.5 to 0.70.~~

8. (Currently Amended) The two-dimensional photonic crystal according to claim 1, ~~which is characterized in that wherein:~~

~~each modified refractive index area consists of holes.~~

9. (Currently Amended) An optical waveguide device, ~~which is characterized in that it comprises:~~comprising:

a two-dimensional photonic crystal according to claim 1, in which a linear defect of the modified refractive index areas is created.

10. (Currently Amended) An optical resonator device, ~~which is characterized in that it comprises:~~comprising:

a two-dimensional photonic crystal according to claim 1, in which a point-like defect of the modified refractive index areas is created.

11. (Currently Amended) An optical multiplexer/demultiplexer, ~~which is characterized in that it comprises:~~comprising:

a two-dimensional photonic crystal according to claim 1;
at least one optical waveguide including a linear defect of the modified refractive index areas created in the two-dimensional photonic crystal; and

at least one optical resonator including a point-like defect of the modified refractive index areas created in a vicinity of the optical waveguide.